

# SEQUENCE LISTING

<110> Advisys  
Baylor College of Medicine

<120> SYNTHETIC MUSCLE PROMOTERS WITH ACTIVITIES EXCEEDING NATURALLY OCCURRING  
REGULATORY SEQUENCES IN CARDIAC CELLS

<130> 108328.00161 - AVSI-0027

<150> US 60/423,536

<151> 2002-11-04

<160> 22

<170> PatentIn version 3.1

<210> 1

<211> 21

<212> DNA

<213> artificial sequence

<220>

<223> SRE control elements used in the promoters.

<400> 1

gacacccaaa tatggcgacg g

21

<210> 2

<211> 19

<212> DNA

<213> artificial sequence

<220>

<223> MEF-1 control element used in the promoters

<400> 2

ccaacacctg ctgcctgcc

19

<210> 3

<211> 19

<212> DNA

<213> artificial sequence

<220>

<223> MEF-2 control element used in the promoters.

<400> 3

cgctctaaaa ataactccc

19

<210> 4

<211> 13

<212> DNA

<213> artificial sequence

<220>

<223> TEF-1 control element used in the promoters.

<400> 4  
caccattcct cac

13

<210> 5  
<211> 335  
<212> DNA  
<213> artificial sequence

<220>  
<223> Nucleic acid sequence of an eukaryotic promoter c5-12.

<400> 5  
cggccgtccg ccttcggcac catcctcacg acacccaaat atggcgacgg gtgaggaatg 60  
gtggggagtt atttttagag cggtgaggaa ggtgggcagg cagcaggtgt tggcgctcta 120  
aaaataactc ccgggagtta tttttagagc ggaggaatgg tggacacca aatatggcga 180  
cggttcctca ccgctcgcca tatttggtg tccgccctcg gccggggccg cattcctggg 240  
ggccggggcgg tgctcccgcc cgcctcgata aaaggctccg gggccggcgg cggcccacga 300  
gctacccgga ggagcgggag gcgccaagct ctaga 335

<210> 6  
<211> 40  
<212> PRT  
<213> artificial sequence

<220>  
<223> This is the artificial sequence for GHRH (1-40)OH.

<220>  
<221> MISC\_FEATURE  
<222> (1)..(1)  
<223> Xaa at position 1 may be tyrosine, or histidine

<220>  
<221> MISC\_FEATURE  
<222> (2)..(2)  
<223> Xaa at position 2 may be alanine, valine, or isoleucine.

<220>  
<221> MISC\_FEATURE  
<222> (15)..(15)  
<223> Xaa at position 15 may be alanine, valine, or isoleucine.

<220>  
<221> MISC\_FEATURE  
<222> (27)..(27)  
<223> Xaa at position 27 may be methionine, or leucine.

<220>

<221> MISC\_FEATURE  
 <222> (28)..(28)  
 <223> Xaa at position 28 may be serine or asparagine.

<400> 6

Xaa Xaa Asp Ala Ile Phe Thr Asn Ser Tyr Arg Lys Val Leu Xaa Gln  
 1 5 10 15

Leu Ser Ala Arg Lys Leu Leu Gln Asp Ile Xaa Xaa Arg Gln Gln Gly  
 20 25 30

Glu Arg Asn Gln Glu Gln Gly Ala  
 35 40

<210> 7  
 <211> 3534  
 <212> DNA  
 <213> artificial sequence

<220>  
 <223> Nucleic acid sequence for the HV-GHRH plasmid.

<400> 7  
 gttgtaaaac gacggccagt gaattgtaat acgactcact atagggcgaa ttggagctcc 60  
 accgcggtgg cggccgtccg ccctcggcac catcctcacg acacccaaat atggcgacgg 120  
 gtgaggaatg gtggggagtt atttttagag cggtgaggaa ggtgggcagg cagcaggtgt 180  
 tggcgctcta aaaataactc ccgggagtta ttttttagagc ggaggaatgg tggacaccca 240  
 aatatggcga cggttctcta ccgctcgcca tatttggtg tccgccctcg gccggggccg 300  
 cattcctggg ggccggggcg tgctcccgcc cgctctgata aaaggctccg gggccggcg 360  
 cgccccacga gctaccggga ggagcgggag gcgccaagct ctagaactag tggatcccaa 420  
 ggccccactc cccgaaccac tcagggtcct gtggacagct cacctagctg ccatggtgct 480  
 ctgggtgttc ttctttgtga tcctcaccct cagcaacagc tcccactgct cccacctcc 540  
 ccctttgacc ctcaggatgc ggcggcacgt agatgccatc ttcaccaaca gctaccggaa 600  
 ggtgctggcc cagctgtccg cccgcaagct gctccaggac atcctgaaca ggcagcaggg 660  
 agagaggaac caagagcaag gagcataatg actgcaggaa ttcgatatca agcttatcgg 720  
 ggtggcatcc ctgtgacccc tccccagtgc ctctcctggc cctggaagtt gccactccag 780  
 tgcccaccag cttgtccta ataaaattaa gttgcatcat tttgtctgac taggtgtcct 840  
 tctataatat tatgggggtg aggggggtg tatggagcaa ggggcaagtt gggaagacaa 900  
 cctgtagggc ctgcggggtc tattgggaac caagctggag tgcagtggca caatcttggc 960

tcactgcaat	ctccgcctcc	tgggttcaag	cgattctcct	gcctcagcct	cccgagttgt	1020
tgggattcca	ggcatgcatg	accagggtca	gctaattttt	gttttttttg	tagagacggg	1080
gtttcaccat	attggccagg	ctggctctca	actcctaate	tcaggtgatc	taccacctt	1140
ggcctcccaa	attgctggga	ttacaggcgt	gaaccactgc	tcccttcctt	gtccttctga	1200
ttttaaaata	actataccag	caggaggacg	tccagacaca	gcataggcta	cctggccatg	1260
cccaaccggt	gggacatttg	agttgcttgc	ttggcactgt	cctctcatgc	gttgggtcca	1320
ctcagtagat	gcctgttgaa	ttcgataccg	tcgacctcga	ggggggggccc	ggtaccagct	1380
tttgttccct	ttagtgaggg	ttaatttcga	gcttggcgta	atcatgggtca	tagctgtttc	1440
ctgtgtgaaa	ttgttatccg	ctcacaattc	cacacaacat	acgagccgga	agcataaagt	1500
gtaaagcctg	gggtgcctaa	tgagtgagct	aactcacatt	aattgcgttg	cgctcactgc	1560
ccgctttcca	gtcgggaaac	ctgtcgtgcc	agctgcatta	atgaatcggc	caacgcgcgg	1620
ggagaggcgg	tttgcgattt	gggcgctctt	ccgcttcctc	gctcactgac	tcgctgcgct	1680
cggtcgttcg	gctgcggcga	gcggtatcag	ctcactcaaa	ggcggtaata	cggttatcca	1740
cagaatcagg	ggataacgca	ggaaagaaca	tgtgagcaaa	aggccagcaa	aaggccagga	1800
accgtaaaaa	ggccgcgttg	ctggcgtttt	tccataggct	ccgccccctt	gacgagcatc	1860
acaaaaatcg	acgctcaagt	cagagggtggc	gaaacccgac	aggactataa	agataccagg	1920
cgtttcccc	tggaagctcc	ctcgtgcgct	ctcctgttcc	gaccctgccg	cttaccggat	1980
acctgtccgc	ctttctccct	tcgggaagcg	tggcgctttc	tcatagctca	cgctgtaggt	2040
atctcagttc	ggtgtaggtc	gttcgctcca	agctgggctg	tgtgcacgaa	cccccgttc	2100
agcccgaccg	ctgcgcctta	tccggttaact	atcgtcttga	gtccaacccg	gtaagacacg	2160
acttatcgcc	actggcagca	gccactggta	acaggattag	cagagcgagg	tatgtaggcg	2220
gtgctacaga	gttcttgaag	tgggtggccta	actacggcta	cactagaaga	acagtatttg	2280
gtatctgcgc	tctgctgaag	ccagttacct	tcggaaaaag	agttggtagc	tcttgatccg	2340
gcaaacaaac	caccgctggt	agcggtggtt	tttttgtttg	caagcagcag	attacgcgca	2400
gaaaaaaagg	atctcaagaa	gatacctttga	tcttttctac	ggggtctgac	gctcagaaga	2460
actcgtcaag	aaggcgatag	aaggcgatgc	gctgcgaatc	gggagcggcg	ataccgtaaa	2520
gcacgaggaa	gcggtcagcc	cattcgccgc	caagctcttc	agcaatatca	cgggtagcca	2580
acgctatgtc	ctgatagcgg	tccgccacac	ccagccggcc	acagtcgatg	aatccagaaa	2640
agcggccatt	ttccaccatg	atattcgga	agcaggcatc	gccatgggtc	acgacgagat	2700
cctcgccgtc	gggcatgcgc	gccttgagcc	tggcgaacag	ttcggctggc	gcgagcccct	2760

gatgctcttc gtccagatca tcctgatcga caagaccggc ttccatccga gtacgtgctc	2820
gctcgatgcg atgtttcogct tggtaggtcga atgggcaggt agccggatca agcgtatgca	2880
gccgccgcat tgcatcagcc atgatggata ctttctcggc aggagcaagg tgagatgaca	2940
ggagatcctg ccccggcact tcgccaata gcagccagtc ccttcccgtc tcagtgacaa	3000
cgctcagcac agctgcgcaa ggaacgcccg tcgtggccag ccacgatagc cgcgctgcct	3060
cgctctgcag ttcattcagg gcaccggaca ggtcggctctt gacaaaaaga accgggcgcc	3120
cctgcgctga cagccggaac acggcggcat cagagcagcc gattgtctgt tgtgcccagt	3180
catagccgaa tagcctctcc acccaagcgg ccggagaacc tgcgtgcaat ccatcttggt	3240
caatcatgcg aaacgatcct catcctgtct cttgatcaga tcttgatccc ctgcgccatc	3300
agatccttgg cggcaagaaa gccatccagt ttactttgca gggcttccca accttaccag	3360
agggcgcccc agctggcaat tccggttcgc ttgctgtcca taaaaccgcc cagtctagca	3420
actggtggga agggcgatcg gtgcgggcct cttcgtctatt acgccagctg gcgaaagggg	3480
gatgtgctgc aaggcgatta agttgggtaa cgccagggtt ttcccagtca cgac	3534

<210> 8

<211> 3534

<212> DNA

<213> artificial sequence

<220>

<223> Nucleic acid sequence for the TI-GHRH plasmid.

<400> 8

gttgtaaaac gacggccagt gaattgtaat acgactcact atagggcgaa ttggagctcc	60
accgcggtgg cggccgtccg ccctcggcac catcctcacg acacccaaat atggcgacgg	120
gtgaggaatg gtggggagtt attttttagag cggtgaggaa ggtgggcagg cagcaggtgt	180
tggcgctcta aaaataactc ccgggagtta ttttttagagc ggaggaatgg tggacacca	240
aatatggcga cggttcctca ccgctcgcca tatttggttg tccgccctcg gccggggccg	300
cattcctggg ggccggggcg tgctcccgcc cgctcgcata aaaggctccg gggccggcg	360
cggcccacga gctaccgga ggagcgggag gcgccaagct ctagaactag tggatcccaa	420
ggcccaactc cccgaaccac tcagggtcct gtggacagct cacctagctg ccatggtgct	480
ctgggtgttc ttctttgtga tcctcaccct cagcaacagc tcccactgct cccacctcc	540
ccctttgacc ctcaggatgc ggcggtatat cgatgccatc ttcaccaaca gctaccggaa	600
ggtgctggcc cagctgtccg cccgcaagct gctccaggac atcctgaaca ggcagcaggg	660
agagaggaac caagagcaag gagcataatg actgcaggaa ttcgatatca agcttatcgg	720

ggggtgcatcc ctgtgacccc tccccagtg cctcctctggc cctggaagtt gccactccag	780
tgcccaccag ccttgctcta ataaaattaa gttgcatcat tttgtctgac taggtgtcct	840
tctataatat tatgggggtgg aggggggtgg tatggagcaa ggggcaagtt gggaagacaa	900
cctgtagggc ctgcggggtc tattgggaac caagctggag tgcagtggca caatcttggc	960
tcaactgcaat ctccgcctcc tgggttcaag cgattctcct gcctcagcct cccgagttgt	1020
tgggattcca ggcatgcatg accaggetca gctaattttt gtttttttgg tagagacggg	1080
gtttcaccat attggccagg ctggtctcca actcctaate tcaggtgatc taccacctt	1140
ggcctcccaa attgctggga ttacaggcgt gaaccactgc tcccttcctt gtccttctga	1200
ttttaaaata actataccag caggaggacg tccagacaca gcataggcta cctggccatg	1260
cccaaccggt gggacatttg agttgcttgc ttggcactgt cctctcatgc gttgggtcca	1320
ctcagtagat gcctgttgaa ttcgataccg tgcacctoga gggggggccc ggtaccagct	1380
tttgttccct ttagtgaggg ttaatttcga gcttggcgta atcatggtca tagctgtttc	1440
ctgtgtgaaa ttgttatccg ctcaaatc cacacaacat acgagccgga agcataaagt	1500
gtaaagcctg ggggtgcctaa tgagtgaagt aactcacatt aattgcgttg cgctcactgc	1560
ccgctttcca gtcgggaaac ctgtcgtgcc agctgcatta atgaatcggc caacgcgcgg	1620
ggagaggcgg tttgcgtatt gggcgctctt ccgcttcctc gctcactgac tcgctgcgct	1680
cggtcgttcg gctgcggcga gcggtatcag ctcaactcaa ggcggttaata cggttatcca	1740
cagaatcagg ggataacgca ggaaagaaca tgtgagcaaa aggccagcaa aaggccagga	1800
accgtaaaaa ggccgcgttg ctggcgtttt tccataggct ccgccccctt gacgagcatc	1860
acaaaaatcg acgtcaagt cagaggtggc gaaacccgac aggactataa agataccagg	1920
cgtttcccc tggaagctcc ctcggtcgct ctctgttcc gaccctgccg cttaccggat	1980
acctgtccgc ctttctcct tcgggaagcg tggcgctttc tcatagctca cgctgtaggt	2040
atctcagttc ggtgtaggtc gttcgctcca agctgggctg tgtgcacgaa cccccgttc	2100
agcccagacc ctgcgcctta tccggtaact atcgtcttga gtccaacccg gtaagacacg	2160
acttatcgcc actggcagca gccactggta acaggattag cagagcgagg tatgtaggcg	2220
gtgctacaga gttcttgaag tgggtggccta actacggcta cactagaaga acagtatttg	2280
gtatctgcgc tctgctgaag ccagttacct tcggaaaaag agttggtagc tcttgatccg	2340
gcaaacaaac caccgctggg agcgggtggt tttttgtttg caagcagcag attacgcgca	2400
gaaaaaaagg atctcaagaa gatcctttga tcttttctac ggggtctgac gtcagaaga	2460
actcgtcaag aaggcgatag aaggcgatgc gctgcgaatc gggagcggcg ataccgtaaa	2520

gcacgaggaa gcggtcagcc cattcgccgc caagctcttc agcaatatca cgggtagcca	2580
acgctatgtc ctgatagcgg tccgccacac ccagccggcc acagtcgatg aatccagaaa	2640
agcggccatt ttccaccatg atattcggca agcaggcatc gccatgggtc acgacgagat	2700
cctcgccgtc gggcatgcgc gccttgagcc tggcgaacag ttcgggtggc gcgagcccct	2760
gatgtctctc gtccagatca tcctgatcga caagaccggc ttccatccga gtacgtgctc	2820
gctcgatgcg atgtttcgct tgggtggtcga atgggcaggt agccggatca agcgtatgca	2880
gccgccgcat tgcatacagc atgatggata ctttctcggc aggagcaagg tgagatgaca	2940
ggagatcctg ccccggcact tcgccaata gcagccagtc ccttcccgtc tcagtgacaa	3000
cgtcgagcac agctgcgcaa ggaacgcccg tcgtggccag ccacgatagc cgcgctgcct	3060
cgctctgcag ttcatcagg gcaccggaca ggtcggctctt gacaaaaaga accgggcgcc	3120
cctgcgctga cagccggaac acggcggcat cagagcagcc gattgtctgt tgtgcccagt	3180
catagccgaa tagcctctcc acccaagcgg ccggagaacc tgcgtgcaat ccatcttggt	3240
caatcatgcg aaacgatcct catcctgtct cttgatcaga tcttgatccc ctgcgccatc	3300
agatccttgg cggcaagaaa gccatccagt ttactttgca gggcttccca accttaccag	3360
agggcgcccc agctggcaat tccggttcgc ttgctgtcca taaaaccgcc cagtctagca	3420
actgttggga agggcgatcg gtgcgggcct cttcgtatt acgccagctg gcgaaagggg	3480
gatgtgctgc aaggcgatta agttgggtaa cgccagggtt ttcccagtca cgac	3534

<210> 9  
 <211> 3534  
 <212> DNA  
 <213> artificial sequence

<220>  
 <223> Nucleic acid sequence for the TV-GHRH plasmid.

<400> 9	
gttgtaaaac gacggccagt gaattgtaat acgactcact atagggcgaa ttggagctcc	60
accgcggtgg cggccgtccg ccctcggcac catcctcacg acacccaaat atggcgacgg	120
gtgaggaatg gtggggagtt attttttagag cggtgaggaa ggtgggcagg cagcaggtgt	180
tggcgctcta aaaataactc ccgggagtta ttttttagagc ggaggaatgg tggacacca	240
aatatggcga cggttcctca cccgtcgcca tatttggggtg tccgccctcg gccggggccg	300
cattcctggg ggccggggcg tgctcccgcc cgctcgata aaaggctccg gggccggcgg	360
cggcccacga gctaccgga ggagcgggag gcgccaagct ctagaactag tggatcccaa	420
ggcccaactc cccgaaccac tcagggtcct gtggacagct cacctagctg ccatggtgct	480

ctgggtgttc ttctttgtga tcctcacctt cagcaacagc tcccactgct cccacctcc	540
ccctttgacc ctccaggatgc ggcggtatgt agatgccatc ttcaccaaca gctaccggaa	600
ggtgctggcc cagctgtccg cccgcaagct gctccaggac atcctgaaca ggcagcaggg	660
agagaggaac caagagcaag gagcataatg actgcaggaa ttcgatatca agcttatcgg	720
ggtggcatcc ctgtgacccc tcccagtgct ctctcctggc cctggaagtt gccactccag	780
tgcccaccag ccttgctcta ataaaattaa gttgcatcat tttgtctgac taggtgtcct	840
tctataatat tatgggggtg aggggggtgg tatggagcaa ggggcaagtt gggaagacaa	900
cctgtagggc ctgcgggggc tattgggaac caagctggag tgcagtggca caatcttggc	960
tactgcaat ctccgcctcc tgggttcaag cgattctcct gcctcagcct cccgagttgt	1020
tgggattcca ggcatgcatg accaggctca gctaattttt gtttttttgg tagagacggg	1080
gtttcaccat attggccagg ctggtctcca actcctaata tcagggtgac taccacctt	1140
ggcctcccaa attgctggga ttacaggcgt gaaccactgc tcccttcctt gtccttctga	1200
ttttaaaata actataccag caggaggacg tccagacaca gcataggcta cctggccatg	1260
cccaaccggt gggacatttg agttgcttgc ttggcactgt cctctcatgc gttgggtcca	1320
ctcagtagat gcctgttgaa ttcgataccg tcgacctcga gggggggccc ggtaccagct	1380
tttgttcctt ttagtgaggg ttaatttcga gcttggcgta atcatggta tagctgtttc	1440
ctgtgtgaaa ttgttatccg ctcaaatc cacacaacat acgagccgga agcataaagt	1500
gtaaagcctg gggcgcctaa tgagttagct aactcacatt aattgcgttg cgctcactgc	1560
ccgctttcca gtcgggaaac ctgtcgtgcc agctgcatta atgaatcggc caacgcgcgg	1620
ggagaggcgg tttgcgtatt gggcgctctt ccgcttcctc gctcactgac tcgctgcgct	1680
cggtcgttcg gctgcggcga gcggtatcag ctactcaaa ggcggtaata cggttatcca	1740
cagaatcagg ggataacgca ggaaagaaca tgtgagcaaa aggccagcaa aaggccagga	1800
accgtaaaaa ggccgcgttg ctggcgtttt tccataggct ccgccccctt gacgagcatc	1860
acaaaaatcg acgctcaagt cagaggtggc gaaacccgac aggactataa agataccagg	1920
cgtttcccc tggaagctcc ctctgctgct ctctgttcc gacctgccg cttaccggat	1980
acctgtccgc ctttctcct tcgggaagcg tggcgctttc tcatagctca cgctgtaggt	2040
atctcagttc ggtgtaggtc gttcgtcca agctgggctg tgtgcacgaa cccccgttc	2100
agccccagcg ctgcgcctta tccggtaact atcgtcttga gtccaacccg gtaagacacg	2160
acttatcgcc actggcagca gccactggtg acaggattag cagagcgagg tatgtaggcg	2220
gtgctacaga gttcttgaag tgggtggccta actacggcta cactagaaga acagtatttg	2280



gtatctgcgc tctgctgaag ccagttacct tcggaaaaag agttggtagc tcttgatccg	2340
gcaaacaaac caccgctggt agcgggtggt tttttgtttg caagcagcag attacgcgca	2400
gaaaaaaagg atctcaagaa gatcctttga tcttttctac ggggtctgac gctcagaaga	2460
actcgtcaag aaggcgatag aaggcgatgc gctgcgaatc gggagcggcg ataccgtaaa	2520
gcacgaggaa gcggtcagcc cattcgccgc caagctcttc agcaatatca cgggtagcca	2580
acgctatgtc ctgatagcgg tccgccacac ccagccggcc acagtcgatg aatccagaaa	2640
agcggccatt ttccaccatg atattcggca agcaggcatc gccatgggtc acgacgagat	2700
cctcgccgtc gggcatgcgc gccttgagcc tggcgaacag ttcggctggc gcgagcccct	2760
gatgctcttc gtccagatca tcctgatcga caagaccggc ttccatccga gtacgtgctc	2820
gctcgatgcg atgtttcgct tgggtggtcga atgggcaggt agccggatca agcgtatgca	2880
gccgccgat tgcacagcc atgatggata ctttctcggc aggagcaagg tgagatgaca	2940
ggagatcctg ccccggcact tcgccaata gcagccagtc ccttcccgtc tcagtgacaa	3000
cgtcgagcac agctgcgcaa ggaacgcccg tcgtggccag ccacgatagc cgcgctgcct	3060
cgctctgcag ttcatcagg gcaccggaca ggtcggctctt gacaaaaaga accgggcgcc	3120
cctgcgtga cagccggaac acggcggcat cagagcagcc gattgtctgt tgtgcccagt	3180
catagccgaa tagcctctcc acccaagcgg ccggagaacc tgcgtgcaat ccatcttggt	3240
caatcatgcg aaacgatcct catcctgtct cttgatcaga tcttgatccc ctgcgccatc	3300
agatccttgg cggcaagaaa gccatccagt ttactttgca gggcttccca accttaccag	3360
agggcgcccc agctggcaat tccggttcgc ttgctgtcca taaaaccgcc cagtctagca	3420
actgttggga agggcgatcg gtgcgggcct cttcgctatt acgccagctg gcgaaagggg	3480
gatgtgctgc aaggcgatta agttgggtaa cgccagggtt ttcccagtca cgac	3534

<210> 10

<211> 3534

<212> DNA

<213> artificial sequence

<220>

<223> Nucleic acid sequence for the 15/27/28 GHRH plasmid.

<400> 10

gttgtaaaac gacggccagt gaattgtaat acgactcact atagggcgaa ttggagctcc	60
accgcggtgg cggccgtccg cctcggcac catcctcacg acacccaaat atggcgacgg	120
gtgaggaatg gtggggagtt atttttagag cggtgaggaa ggtgggcagg cagcaggtgt	180
tggcgtctta aaaataactc ccgggagtta tttttagagc ggaggaatgg tggacaccca	240

aatatggcga cggttcctca cccgtcgcca tatttggtg tccgccctcg gccggggccg	300
cattcctggg ggccggggcg tgctcccgcc cgcctcgata aaaggctccg gggccggcgg	360
cggcccacga gctacccgga ggagcgggag gcgccaagct ctagaactag tggatcccaa	420
ggcccaactc cccgaaccac tcagggtcct gtggacagct cacctagctg ccatggtgct	480
ctgggtgttc ttctttgtga tctcaccct cagcaacagc tcccactgct cccacctcc	540
ccctttgacc ctgaggatgc ggcggtatat cgatgccatc ttcaccaaca gctaccggaa	600
ggtgctggcc cagctgtccg cccgcaagct gctccaggac atcctgaaca ggcagcaggg	660
agagaggaac caagagcaag gagcataatg actgcaggaa ttcgatatca agcttatcgg	720
ggtggcatcc ctgtgacccc tccccagtgc ctctcctggc cctggaagtt gccactccag	780
tgcccaccag ccttgtccta ataaaattaa gttgcatcat tttgtctgac taggtgtcct	840
tctataatat tatggggtgg aggggggtgg tatggagcaa ggggcaagtt gggaagacaa	900
cctgtagggc ctgcggggtc tattgggaac caagctggag tgcagtggca caatcttggc	960
tcaactgcaat ctccgcctcc tgggttcaag cgattctcct gcctcagcct cccgagttgt	1020
tgggattcca ggcatgcatg accagggtca gctaattttt gtttttttgg tagagacggg	1080
gtttcaccat attggccagg ctggtctcca actcctaate tcagggtgatc taccacctt	1140
ggcctcccaa attgctggga ttacaggcgt gaaccactgc tcccttccct gtccttctga	1200
ttttaaaata actataccag caggaggacg tccagacaca gcataggcta cctggccatg	1260
cccaaccggt gggacatttg agttgcttgc ttggcactgt cctctcatgc gttgggtcca	1320
ctcagtagat gcctgttgaa ttcgataccg tcgacctcga gggggggccc ggtaccagct	1380
tttgttccct ttagtgaggg ttaatttcga gcttggcgta atcatggtca tagctgtttc	1440
ctgtgtgaaa ttgttatccg ctcaaatc cacacaacat acgagccgga agcataaagt	1500
gtaaagcctg gggcgcctaa tgagttagct aactcacatt aattgcgttg cgctcactgc	1560
ccgctttcca gtcgggaaac ctgtcgtgcc agctgcatta atgaatcggc caacgcgcgg	1620
ggagagggcg tttgcgtatt gggcgctctt ccgcttctc gctcactgac tcgctgcgct	1680
cggtcgttcg gctgcggcga gcggtatcag ctactcaaa ggcggtaata cggttatcca	1740
cagaatcagg ggataacgca ggaaagaaca tgtgagcaaa aggccagcaa aaggccagga	1800
accgtaaaaa ggccgcgttg ctggcggttt tccataggct ccgccccct gacgagcatc	1860
acaaaaatcg acgctcaagt cagagggtggc gaaacccgac aggactataa agataccagg	1920
cgtttcccc tggaagctcc ctcgctgcgt ctctgttcc gacctgccg cttaccggat	1980
acctgtccgc ctttctccct tcgggaagcg tggcgcttcc tcatagctca cgctgtaggt	2040

atctcagttc ggtgtaggtc gttcgctcca agctgggctg tgtgcacgaa cccccgttc	2100
agcccgaccg ctgcgcctta tccggttaact atcgtcttga gtccaacccg gtaagacacg	2160
acttatcgcc actggcagca gccactggta acaggattag cagagcgagg tatgtaggcg	2220
gtgctacaga gttcttgaag tgggtggccta actacggcta cactagaaga acagtatttg	2280
gtatctgcg cttgctgaag ccagttacct tcggaaaaag agttggtagc tcttgatccg	2340
gcaaacaaac caccgctggt agcgggtggt tttttgtttg caagcagcag attacgcgca	2400
gaaaaaaagg atctcaagaa gatcctttga tcttttctac ggggtctgac gctcagaaga	2460
actcgtcaag aaggcgatag aaggcgatgc gctgcgaatc gggagcggcg ataccgtaaa	2520
gcacgaggaa gcggtcagcc cattcgccgc caagctcttc agcaatatca cgggtagcca	2580
acgctatgtc ctgatagcgg tccgccacac ccagccggcc acagtcgatg aatccagaaa	2640
agcggccatt ttccaccatg atattcggca agcaggcatc gccatgggtc acgacgagat	2700
cctcgccgtc gggcatgcgc gccttgagcc tggcgaacag ttcggctggc gcgagcccct	2760
gatgctcttc gtccagatca tctgatcga caagaccggc ttccatccga gtacgtgctc	2820
gctcgatgcg atgtttcgt tgggtggtcga atgggcaggt agccggatca agcgtatgca	2880
gccgccgat tgcacagcc atgatggata ctttctcggc aggagcaagg tgagatgaca	2940
ggagatcctg ccccggaact tcgccaata gcagccagtc ccttcccgtc tcagtgacaa	3000
cgtcgagcac agctgcgcaa ggaacgcccg tcgtggccag ccacgatagc cgcgctgcct	3060
cgtcctgcag ttcattcagg gcaccggaca ggtcggctct gacaaaaaga accgggcgcc	3120
cctgcgctga cagccggaac acggcggcat cagagcagcc gattgtctgt tgtgccagt	3180
catagccgaa tagcctctcc acccaagcgg ccggagaacc tgcgtgcaat ccatcttggt	3240
caatcatgcg aaacgatcct catcctgtct cttgatcaga tcttgatccc ctgcgccatc	3300
agatccttgg cggcaagaaa gccatccagt ttactttgca gggcttccca accttaccag	3360
agggcgcccc agctggcaat tccggttcgc ttgctgtcca taaaaccgcc cagtctagca	3420
actgttggga agggcgatcg gtgcgggcct cttcgctatt acgccagctg gcgaaagggg	3480
gatgtgctgc aaggcgatta agttgggtaa cgccagggtt ttcccagtcg cgac	3534

<210> 11

<211> 2710

<212> DNA

<213> artificial sequence

<220>

<223> Vector with a mouse codon optimized GHRH analog sequence

<400> 11

tgtaatacga ctcactatag ggcgaattgg agctccaccg cgggtggcggc cgtccgccct	60
cggcaccatc ctcacgacac ccaaatatgg cgacgggtga ggaatggtgg ggagttattt	120
ttagagcggg gaggaagggtg ggcaggcagc aggtggtggc gctctaaaaa taactcccgg	180
gagttatttt tagagcggag gaatggtgga cacccaaata tggcgacggg tcctcaccgg	240
tcgccatatt tgggtgtccg ccctcggccg gggcgcgatt cctggggggc gggcgggtgct	300
cccgcgccgc tcgataaaag gctccggggc cggcggcggc ccacgagcta cccggaggag	360
cgggaggcgc caagcggatc ccaaggcca actccccgaa ccactcaggg tcctgtggac	420
agctcaccta gctgccatgg tgctctgggt gctctttgtg atcctcatcc tcaccagcgg	480
cagccactgc agcctgcctc ccagccctcc cttcaggatg cagaggcacg tggacgccat	540
cttcaccacc aactacagga agctgctgag ccagctgtac gccaggaagg tgatccagga	600
catcatgaac aagcagggcg agaggatcca ggagcagagg gccaggctga gctgataagc	660
ttatcggggg ggcatccctg tgacccctcc ccagtgcctc tcctggccct ggaagttgcc	720
actccagtgc ccaccagcct tgtcctaata aaattaagtt gcatcatttt gtctgactag	780
gtgtccttct ataatattat ggggtggagg ggggtggtat ggagcaaggg gcaagttggg	840
aagacaacct gtagggctcg agggggggcc cggtagcagc ttttgttccc tttagtgagg	900
gttaatttcg agcttggtct tccgcttcc cgtcactga ctgctgcgc tcggtcgttc	960
ggctgcggcg agcggtatca gctcactcaa aggcggtaat acggttatcc acagaatcag	1020
gggataacgc aggaaagaac atgtgagcaa aaggccagca aaaggccagg aaccgtaaaa	1080
aggccgcggt gctggcgttt ttccataggc tccgcccccc tgacgagcat cacaaaaatc	1140
gacgtcaag tcagaggtgg cgaaaccgca caggactata aagataccag gcgtttcccc	1200
ctggaagctc cctcgtgcgc tctcctgttc cgaccctgcc gcttaccgga tacctgtccg	1260
cctttctccc ttcgggaagc gtggcgcttt ctcatagctc acgctgtagg tatctcagtt	1320
cgggtgtaggt cgttcgctcc aagctgggct gtgtgcacga accccccgtt cagcccagcc	1380
gctgcgcctt atccggtaac tatcgtcttg agtccaaccc ggtaagacac gacttatcgc	1440
cactggcagc agccactggt aacaggatta gcagagcgag gtatgtaggc ggtgctacag	1500
agttcttgaa gtggtggcct aactacggct acactagaag aacagtattt ggtatctgcg	1560
ctctgctgaa gccagttacc ttcggaaaaa gagttggtag ctcttgatcc ggcaaaaaa	1620
ccaccgctgg tagcgggtgt ttttttgttt gcaagcagca gattacgcgc agaaaaaaag	1680
gatctcaaga agatccttg atcttttcta cggggctagc gcttagaaga actcatccag	1740
cagacggtag aatgcaatac gttgagagtc tggagctgca ataccataca gaaccaggaa	1800

acggtcagcc cattcaccac ccagttcctc tgcaatgtca cgggtagcca gtgcaatgtc	1860
ctggtaacgg tctgcaacac ccagacgacc acagtcaatg aaaccagaga aacgaccatt	1920
ctcaaccatg atgttcggca ggcattgcac accatgagta actaccaggt cctcaccatc	1980
cggcatacga gctttcagac gtgcaaacag ttcagccggg gccagaccct gatgttcctc	2040
atccagggtca tcttgggtcaa ccagacctgc ttccatacgg gtacgagcac gttcaatacg	2100
atgtttttgcc tgggtgggtcaa acggacaggt agctgggtcc aggggtgtgca gacgacgcat	2160
tgcattcagcc atgatagaaa ctttctctgc cggagccagg tgagaagaca gcaggctcctg	2220
acccggaact tcaccagca gcagccagtc acgaccagct tcagtaacta catccagaac	2280
tgcagcacac ggaacaccag tgggtgccag ccaagacaga cgagctgctt catcctgcag	2340
ttcattcaga gcaccagaca ggtcagtttt aacaaacaga actggacgac cctgtgcaga	2400
cagacggaaa acagctgcat cagagcaacc aatgggtctgc tgtgccagtc cataaccaa	2460
cagacgttca acccaggctg ccggagaacc tgcattgcaga ccattcctgtt caatcatgcg	2520
aaacgatcct catcctgtct cttgatcaga tcttgatccc ctgcgccatc agatccttgg	2580
cggcaagaaa gccatccagt ttactttgca gggcttccca accttaccag agggcgcccc	2640
agctggcaat tccggttcgc ttgctgtcca taaaaccgcc cagtctagca actgttgagg	2700
agggcgatcg	2710

<210> 12

<211> 2713

<212> DNA

<213> artificial sequence

<220>

<223> Vector with a rat codon optimized GHRH analog sequence

<400> 12

tgtaatacga ctactatag ggcgaattgg agtccaccg cgggtggcggc cgtccgccct	60
cggcaccatc ctcacgacac ccaaatatgg cgacgggtga ggaatgggtg ggagttat	120
ttagagcggg gaggaagggtg ggcaggcagc aggtgttggc gctctaaaaa taactccc	180
gagttatatt tagagcggag gaatgggtga caccctaaata tggcgacggg tcctcacc	240
tcgccatatt tgggtgtccg ccctcggccg gggccgcatt cctggggggc gggcggtg	300
cccggccgcc tcgataaaag gctccggggc cggcgggcggc ccacgagcta cccggagg	360
cgggaggcgc caagcggatc ccaaggccca actccccgaa ccactcaggg tctgtggac	420
agctcaccta gctgccatgg ccctgtgggt gttcttcgtg ctgctgacct tgaccagcg	480
aagccactgc agcctgcctc ccagccctcc cttcagggtg cgccggcacg ccgacgccat	540

cttcaccagc agctacagga ggatcctggg ccagctgtac gctaggaagc tcctgcacga	600
gatcatgaac aggcagcagg gcgagaggaa ccaggagcag aggagcaggt tcaactgata	660
agcttatcgg ggtggcatcc ctgtgacccc tccccagtgc ctctcctggc cctggaagtt	720
gccactccag tgcccaccag ccttgtccta ataaaattaa gttgcatcat tttgtctgac	780
taggtgtcct tctataatat tatgggggtgg aggggggtgg tatggagcaa ggggcaagtt	840
gggaagacaa cctgtagggc tcgagggggg gcccggtacc agcttttgtt cccttttagtg	900
agggttaatt tcgagcttgg tcttccgctt cctcgctcac tgactcgctg cgctcggtcg	960
ttcggtgctg gcgagcggta tcagctcact caaaggcggc aatacgggta tccacagaat	1020
caggggataa cgcaggaaag aacatgtgag caaaaggcca gcaaaaggcc aggaaccgta	1080
aaaaggccgc gttgctggcg tttttccata ggctccgccc ccctgacgag catcacaaaa	1140
atcgacgctc aagtcagagg tggcgaaacc cgacaggact ataaagatac caggcgtttc	1200
cccctggaag ctccctcgtg cgctctcctg ttccgaccct gccgcttacc ggatacctgt	1260
ccgcctttct cccttcggga agcgtggcg tttctcatag ctcacgctgt aggtatctca	1320
gttcggtgta ggtcgttcgc tccaagctgg gctgtgtgca cgaaccccc gttcagcccg	1380
accgctgcgc cttatccggt aactatcgtc ttgagtccaa cccggtgaaga cacgacttat	1440
cgccactggc agcagccact ggtaacagga ttagcagagc gaggtatgta ggcggtgcta	1500
cagagttctt gaagtgggtg cctaactacg gctacactag aagaacagta tttggtatct	1560
gcgctctgct gaagccagtt accttcggaa aaagagttgg tagctcttga tccggcaaac	1620
aaaccaccgc tggtagcggg ggtttttttg tttgcaagca gcagattacg cgcagaaaaa	1680
aaggatctca agaagatcct ttgatctttt ctacggggct agcgcttaga agaactcatc	1740
cagcagacgg tagaatgcaa tacgttgaga gtctggagct gcaataccat acagaaccag	1800
gaaacggtea gccattcac caccagttc ctctgcaatg tcacgggtag ccagtgcaat	1860
gtcctggtaa cggcttgcaa caccagacg accacagtca atgaaaccag agaaacgacc	1920
attctcaacc atgatgttcg gcaggcatgc atcaccatga gtaactacca ggtcctcacc	1980
atccggcata cgagctttca gacgtgcaaa cagttcagcc ggtgccagac cctgatgttc	2040
ctcatccagg tcatcctggt caaccagacc tgcttcata cgggtacgag cacgttcaat	2100
acgatgtttt gcctgggtgg caaacggaca ggtagctggg tccagggtgt gcagacgacg	2160
cattgcatca gccatgatag aaactttctc tgccggagcc aggtgagaag acagcaggtc	2220
ctgaccggga acttcacca gcagcagcca gtcacgacca gttcagtaa ctacatccag	2280
aactgcagca cacggaacac cagtggttgc cagccaagac agacgagctg cttcatcctg	2340

cagttcattc agagcaccag acagggtcagt tttacaaaac agaactggac gaccctgtgc	2400
agacagacgg aaaacagctg catcagagca accaatgggc tgctgtgccc agtcataacc	2460
aaacagacgt tcaaccacgg ctgccggaga acctgcatgc agaccatcct gttcaatcat	2520
gcgaaacgat cctcatcctg tctcttgatc agatcttgat cccctgcgcc atcagatcct	2580
tggcggcaag aaagccatcc agtttacttt gcagggcttc ccaaccttac cagagggcgc	2640
cccagctggc aattccggtt cgcttgctgt ccataaaacc gccagtccta gcaactgttg	2700
ggaagggcga tcg	2713

<210> 13

<211> 2704

<212> DNA

<213> artificial sequence

<220>

<223> Vector with a bovine codon optimized GHRH analog sequence

<400> 13

tgtaatacga ctcactatag ggcgaaattgg agctccaccg cgggtggcggc cgtccgccct	60
cggcaccatc ctcacgacac ccaaatatgg cgacgggtga ggaatggtgg ggagttattt	120
ttagagcggg gaggaagggt ggacggcagc aggtgttggc gctctaaaaa taactcccgg	180
gagttatttt tagagcggag gaatggtgga caccacaaata tggcgacggg tcctcaccgg	240
tcgccatatt tgggtgtccg ccctcggccg gggccgcatt cctggggggc gggcgggtgt	300
cccggccgcc tcgataaaag gctccggggc cggcggcggc ccacgagcta cccggaggag	360
cgggaggcgc caagcggatc ccaaggccca actccccgaa cactcagggt tcctgtggac	420
agctcaccta gctgccatgg tgctgtgggt gttcttctctg gtgaccctga ccctgagcag	480
cggctcccac ggtccctgc cctcccagcc tctgcgcac cctcgctacg ccgacgccat	540
cttcaccaac agctaccgca aggtgctcgg ccagctcagc gcccgaagc tcctgcagga	600
catcatgaac cggcagcagg gcgagcgcaa ccaggagcag ggagcctgat aagcttatcg	660
gggtggcatc cctgtgaccc ctccccagtg cctctccttg ccctggaagt tgccactcca	720
gtgcccacca gccttgtcct aataaaatta agttgcatca ttttgtctga ctaggtgtcc	780
ttctataata ttatgggggt gaggggggtg gtatggagca aggggcaagt tgggaagaca	840
acctgtaggg ctcgaggggg ggcccggtag cagcttttgt tcccttttagt gaggggtaat	900
ttcgagcttg gtcttccgct tcctcgctca ctgactcgct gcgctcgggc gttcggctgc	960
ggcgagcggg atcagctcac tcaaaggcgg taatacgggt atccacagaa tcaggggata	1020
acgcaggaaa gaacatgtga gcaaaaggcc agcaaaaggc caggaaccgt aaaaaggccg	1080

cgttgctggc gtttttccat aggctccgcc cccctgacga gcatcacaaa aatcgacgct	1140
caagtcagag gtggcgaaac ccgacaggac tataaagata ccaggcgttt ccccttgga	1200
gctccctcgt gcgctctcct gttccgaccc tgccgcttac cggataacctg tccgcctttc	1260
tcccttcggg aagcgtggcg ctttctcata gctcacgctg taggtatctc agttcggtgt	1320
aggtcgttcg ctccaagctg ggctgtgtgc acgaaccccc cgttcagccc gaccgctgcg	1380
ccttatccgg taactatcgt cttgagtcca acccggttaag acacgactta tcgccactgg	1440
cagcagccac tggtaacagg attagcagag cgaggatatgt aggcgggtgct acagagttct	1500
tgaagtgggtg gcctaactac ggctacacta gaagaacagt atttggtatc tgcgctctgc	1560
tgaagccagt taccttcgga aaaagagttg gtagctcttg atccggcaaa caaaccaccg	1620
ctggtagcgg tggttttttt gtttgcaagc agcagattac gcgcagaaaa aaaggatctc	1680
aagaagatcc tttgatcttt tctacggggc tagcgcttag aagaactcat ccagcagacg	1740
gtagaatgca atacgttgag agtctggagc tgcaatacca tacagaacca ggaaacggtc	1800
agcccattca ccaccagtt cctctgcaat gtcacgggta gccagtgcaa tgtcctggta	1860
acggtctgca acaccagac gaccacagtc aatgaaacca gagaaacgac cattctcaac	1920
catgatgttc ggcaggcatg catcaccatg agtaactacc aggtcctcac catccggcat	1980
acgagctttc agacgtgcaa acagttcagc cggtgccaga ccctgatggt cctcatccag	2040
gtcatcctgg tcaaccagac ctgcttccat acgggtacga gcacgttcaa tacgatgttt	2100
tgcttgggtg tcaaacggac aggtagctgg gtccagggtg tgcagacgac gcattgcatc	2160
agccatgata gaaactttct ctgccggagc caggtgagaa gacagcaggt cctgaccggg	2220
aacttcaccc agcagcagcc agtcacgacc agcttcagta actacatcca gaactgcagc	2280
acacggaaca ccagtgggtg ccagccaaga cagacgagct gcttcacct gcagttcatt	2340
cagagcacca gacaggtcag ttttaacaaa cagaactgga cgaccctgtg cagacagacg	2400
gaaaacagct gcatcagagc aaccaatggt ctgctgtgcc cagtcataac caaacagacg	2460
ttcaaccag gctgccggag aacctgcatg cagaccatcc tgttcaatca tgcgaaacga	2520
tcctcatcct gtctcttgat cagatcttga tcccctgcgc catcagatcc ttggcggcaa	2580
gaaagccatc cagtttactt tgcagggtt cccaacctta ccagagggcg cccagctgg	2640
caattccggt tcgcttgctg tccataaaac cgcccagtct agcaactgtt gggaaggcg	2700
atcg	2704

<210> 14  
 <211> 2704  
 <212> DNA



<213> artificial sequence

<220>

<223> Vector with a ovine codon optimized GHRH analog sequence

<400> 14

tgt	aatacga	ctc	actatag	ggc	gaattgg	agc	tccaccg	cgg	tggcggc	cgt	ccgccct	60
cgg	caccatc	ctc	acgacac	cca	aatatgg	cg	acgggtga	gga	atggtgg	gg	agttat	120
tt	agagcgg	gag	gaaggtg	gg	caggcagc	agg	tgttggc	gct	ctaaaa	taa	ctcccgg	180
gag	ttat	ttt	tagagcgg	gag	gaatggtg	ga	cacccaaata	tgg	cgcaggt	tc	ctcaccg	240
tc	gcatatt	tgg	gtgtccg	cc	tcggccg	ggg	cgcatt	cct	ggggggc	ggg	cgggtgt	300
ccc	ggccgcc	tc	gataaaag	gct	ccggggc	cgg	cggcggc	cc	acgagcta	ccc	ggaggag	360
cgg	gaggcgc	caa	gcggatc	cca	aggccca	act	ccccgaa	cc	actcaggg	tc	ctgtggac	420
ag	tcaccta	gct	gccatgg	tg	ctgtgggt	gtt	cttcctg	gt	gaccctga	cc	ctgagcag	480
cgg	aagccac	gg	cagcctgc	cc	agccagcc	cct	gaggatc	cct	aggtacg	cc	gacgccat	540
ctt	caccaac	ag	ctacagga	aga	tcctggg	cc	agctgagc	gct	aggaagc	tc	ctgcagga	600
cat	catgaac	agg	cagcagg	gc	gagaggaa	cc	aggagcag	gg	cgcctgat	aag	cttatcg	660
ggg	tggcatc	cct	gtgaccc	ct	ccccagtg	cct	ctcctgg	cc	ctggaagt	tg	ccactcca	720
gtg	ccccacca	gc	cttgtcct	aata	aaaatta	agt	tgcata	ttt	tgtctga	cta	ggtgtcc	780
tt	ctataata	tt	atgggggtg	gag	gggggtg	gt	atggagca	agg	ggcaagt	tg	ggaagaca	840
ac	ctgtaggg	ct	gagggggg	gg	cccggtac	cag	cttttgt	tc	cttttagt	gag	gggttaat	900
tt	cagacttg	gt	cttcctgt	tc	ctcgtca	ct	gactcgt	gc	gtcgtggtc	gtt	cggctgc	960
gg	cgcgcgg	at	cagctcac	tcaa	aggcgg	ta	atacgggt	at	ccacagaa	tc	aggggata	1020
ac	gcaggaaa	ga	acatgtga	gcaaa	aggcc	ag	caaaaggc	cag	gaaccgt	aaa	aaggccg	1080
cgt	tgtggtg	gt	ttttccat	agg	ctccgc	ccc	ctgacga	gc	atcacaaa	aat	cgcgct	1140
caa	gtcagag	gt	ggcgaaac	cc	gacaggac	tata	aaagata	cc	aggcggtt	ccc	ctggaa	1200
gct	ccctcgt	gc	gtctctct	gtt	ccgaccc	tg	ccgcttac	cgg	atacctg	tc	gcctttc	1260
tc	cttcggg	aag	cgtggcg	ctt	tctcata	gt	cacgctg	tag	gtatctc	agt	tcggtgt	1320
agg	tcgttcg	ct	ccaagctg	gg	ctgtgtgc	ac	gaaccccc	cgt	tcagccc	gac	cgtgcg	1380
cct	tatccgg	taa	ctatcgt	ctt	gagtcca	acc	cggtaaag	ac	acgactta	tc	gccactgg	1440
cag	cagccac	tg	gtaacagg	att	agcagag	cg	aggtatgt	agg	cgtgtgt	ac	agagttct	1500
tga	agtgggtg	gc	ctaactac	gg	ctacacta	ga	agaacagt	att	tggtatc	tg	cgtctgc	1560
tga	agccagt	tac	cttcgga	aaa	agagttg	gta	gtctcttg	at	ccggcaaa	caa	accaccg	1620

ctggtagcgg	tggttttttt	gtttgcaagc	agcagattac	gcgagaaaa	aaaggatctc	1680
aagaagatcc	tttgatcttt	tctacggggc	tagcgcttag	aagaactcat	ccagcagacg	1740
gtagaatgca	atacgttgag	agtctggagc	tgcaatacca	tacagaacca	ggaaacggtc	1800
agcccattca	ccaccagtt	cctctgcaat	gtcacgggta	gccagtgcaa	tgtcctggta	1860
acgggtctgca	acaccagac	gaccacagtc	aatgaaacca	gagaaacgac	cattctcaac	1920
catgatgttc	ggcaggcatg	catcaccatg	agtaactacc	aggtcctcac	catccggcat	1980
acgagctttc	agacgtgcaa	acagttcagc	cggtgccaga	ccctgatgtt	cctcatccag	2040
gtcatcctgg	tcaaccagac	ctgcttccat	acgggtacga	gcacgttcaa	tacgatgttt	2100
tgcttggtgg	tcaaacggac	aggtagctgg	gtccagggtg	tgacagacgac	gcattgcac	2160
agccatgata	gaaactttct	ctgccggagc	caggtgagaa	gacagcaggt	cctgaccggg	2220
aacttcaccc	agcagcagcc	agtcacgacc	agcttcagta	actacatcca	gaactgcagc	2280
acacggaaca	ccagtgggtg	ccagccaaga	cagacgagct	gcttcaccc	gcagttcatt	2340
cagagcacca	gacaggctag	ttttaacaaa	cagaactgga	cgaccctgtg	cagacagacg	2400
gaaaacagct	gcatcagagc	aaccaatggt	ctgctgtgcc	cagtcataac	caaacagacg	2460
ttcaaccag	gctgccggag	aacctgcatg	cagaccatcc	tgttcaatca	tgcgaaacga	2520
tcctcatcct	gtctcttgat	cagatcttga	tcccctgcgc	catcagatcc	ttggcggcaa	2580
gaaagccatc	cagtttactt	tgaggggctt	cccaacctta	ccagagggcg	ccccagctgg	2640
caattccggt	tcgcttgctg	tccataaaac	cgcccagtct	agcaactgtt	gggaagggcg	2700
atcg						2704

<210> 15

<211> 2713

<212> DNA

<213> artificial sequence

<220>

<223> Vector with a chicken codon optimized GHRH analog sequence

<400> 15

tgtaatacga	ctcactatag	ggcgaattgg	agctccaccg	cggtggcggc	cgtccgccct	60
cggcaccatc	ctcacgacac	ccaaatatgg	cgacgggtga	ggaatgggtg	ggagttattt	120
ttagagcgg	gaggaagggtg	ggcaggcagc	aggtgttggtc	gctctaaaaa	taactcccgg	180
gagttatttt	tagagcggag	gaatgggtga	cacccaaata	tggcgacggt	tcctcaccgg	240
tcgccatatt	tgggtgtccg	ccctcgggcg	gggccgcatt	cctggggggc	gggcgggtgct	300
cccgcccgcc	tcgataaaag	gctccggggc	cggcggcggc	ccacgagcta	cccggaggag	360

cgaggagcgc caagcggatc ccaaggccca actccccgaa ccactcaggg tcctgtggac	420
agctcaccta gctgccatgg ccctgtgggt gttctttgtg ctgctgaccc tgacctccgg	480
aagccactgc agcctgccac ccagcccacc cttccgcgtc aggcgccacg ccgacggcat	540
cttcagcaag gcctaccgca agctcctggg ccagctgagc gcacgcaact acctgcacag	600
cctgatggcc aagcgcgtgg gcagcggact gggagacgag gccgagcccc tgagctgata	660
agcttatcgg ggtggcatcc ctgtgacccc tccccagtgc ctctcctggc cctggaagtt	720
gccactccag tgcccaccag ccttgctcta ataaaattaa gttgcatcat tttgtctgac	780
taggtgtcct tctataatat tatgggggtg aggggggtgg tatggagcaa ggggcaagtt	840
gggaagacaa cctgtagggc tcgagggggg gcccggtacc agcttttgtt ccctttagtg	900
agggttaatt tcgagcttgg tcttcgctt cctcgtcac tgactcgtg cgctcggtcg	960
ttcggctgcg gcgagcggtg tcagctcact caaaggcgtt aatacggtta tccacagaat	1020
caggggataa cgcaggaaag aacatgtgag caaaaggcca gcaaaggcc aggaaccgta	1080
aaaaggccgc gttgctggcg tttttccata ggctccgcc ccctgacgag catcacaaaa	1140
atcgacgctc aagtcagagg tggcgaaacc cgacaggact ataaagatac caggcgtttc	1200
cccctggaag ctccctcgtg cgctctcctg ttccgacct gccgcttacc ggatacctgt	1260
ccgcctttct cccttcggga agcgtggcgc tttctcatag ctcacgctgt aggtatctca	1320
gttcggtgta ggtcgttcgc tccaagctgg gctgtgtgca cgaaccccc gttcagccccg	1380
accgctgcgc cttatccggt aactatcgtc ttgagtccaa cccggtaga cactgattat	1440
cggcactggc agcagccact ggtaacagga ttagcagagc gaggtatgta ggcggtgcta	1500
cagagttctt gaagtgggtg cctaactacg gctacactag aagaacagta tttggtatct	1560
gcgctctgct gaagccagtt accttcggaa aaagagttgg tagctcttga tccggcaaac	1620
aaaccaccgc tggtagcggg ggtttttttg tttgcaagca gcagattacg cgcagaaaaa	1680
aaggatctca agaagatcct ttgatctttt ctacggggct agcgcttaga agaactcatc	1740
cagcagacgg tagaatgcaa tacgttgaga gtctggagct gcaataccat acagaaccag	1800
gaaacggtea gccattcac caccagttc ctctgcaatg tcacgggtag ccagtgcaat	1860
gtcctggtaa cggctctgcaa caccagacg accacagtca atgaaaccag agaaacgacc	1920
attctcaacc atgatgttcg gcaggcatgc atcaccatga gtaactacca ggtcctcacc	1980
atccggcata cgagctttca gacgtgcaaa cagttcagcc ggtgccagac cctgatgttc	2040
ctcatccagg tcactcctgg caaccagacc tgcttcata cgggtacgag cacgttcaat	2100
acgatgtttt gcctgggtgg caaacggaca ggtagctggg tccaggggtg gcagacgacg	2160

cattgcatca gccatgatag aaactttctc tgccggagcc aggtgagaag acagcaggtc	2220
ctgacccgga acttcaccca gcagcagcca gtcacgacca gttcagtaa ctacatccag	2280
aactgcagca cacggaacac cagtgggtgc cagccaagac agacgagctg cttcatcctg	2340
cagttcattc agagcaccag acaggtcagt tttacaaaac agaactggac gaccctgtgc	2400
agacagacgg aaaacagctg catcagagca accaatgggc tgctgtgccc agtcataacc	2460
aaacagacgt tcaaccagg ctgccggaga acctgcatgc agaccatcct gttcaatcat	2520
gcgaaacgat cctcatcctg tctcttgatc agatcttgat cccctgcgcc atcagatcct	2580
tggcggcaag aaagccatcc agtttacttt gcagggcttc ccaaccttac cagagggcgc	2640
cccagctggc aattccggtt cgcttgctgt ccataaaaacc gccagtccta gcaactgttg	2700
ggaagggcga tcg	2713

<210> 16  
 <211> 382  
 <212> DNA  
 <213> artificial sequence

<220>  
 <223> This is the synthetic promoter c1-26.

<400> 16	
ggcggccgag ggcggcgggg caggcagcag gtgttggcac cattcctcac cgctctaaaa	60
ataactcccc tgaggaatgg tgccgtcgcc atatttgggt gtcgacaccc aaatatggcg	120
acgggtgagg aatggtgggc aggcagcagg tggtgggaca cccaaatatg gcgacggcca	180
acacctgctg cctgccggga gttattttta gagcggggag ttatttttag agcggtgagg	240
aatggtggac acccaaatat ggcgacggcc ggggccgcat tcctgggggc cgggcgggtgc	300
tcccgccgc ctcgataaaa ggctccgggg ccggcggcgg cccacgagct acccgaggga	360
gcgggaggcg ccaagctcta ga	382

<210> 17  
 <211> 218  
 <212> DNA  
 <213> artificial sequence

<220>  
 <223> This is the synthetic promoter sequence for c2-26.

<400> 17	
cggccgtcgc catatttggg tgccgctct aaaaataact cccgacaccc aaatatggcg	60
acggggcagg cagcaggtgt tgggacaccc aaatatggcg acggccgggg ccgcattcct	120
gggggcccgg cggtgctccc gcccgcctcg ataaaaggct ccggggccgg cggcggccca	180

cgagctaccc ggaggagcgg gaggcgccaa gctctaga

218

<210> 18  
<211> 230  
<212> DNA  
<213> artificial sequence

<220>  
<223> This is the synthetic sequence for c2-27.

<400> 18  
cggccgtcgc catatttggg tgtcggcagg cagcaggtgt tggcaccatt cctcaccctg 60  
cgccatattt ggggtgtcggc aggcagcagt gttgggacac ccaaatatgg cgacggccgg 120  
ggccgcattc ctggggggccg ggcggtgctc ccgcccgcct cgataaaaagg ctccggggcc 180  
ggcggcgggc cagcagctac ccggaggagc gggaggcgcc aagctctaga 230

<210> 19  
<211> 231  
<212> DNA  
<213> artificial sequence

<220>  
<223> This is the synthetic promoter for c5-5.

<400> 19  
cggccgtccg ccctcgggac acccaaatat ggcgacgggt gaggaatggt gcaccattcc 60  
tcacgggagt tattttttaga gcggtgagga atggtggaca ccaaatatg gcgacggccg 120  
gggccgcatt cctggggggcc gggcggtgct cccgcccgc tcgataaaaag gctccggggc 180  
cgggcgcggc ccacgagcta cccggaggag cgggaggcgc caagctctag a 231

<210> 20  
<211> 255  
<212> DNA  
<213> artificial sequence

<220>  
<223> This is the synthetic promoter for c6-5.

<400> 20  
cggccgtcgc catatttggg tgtccaaca cctgctgcct gcccgcgcgc catatttggg 60  
gtcggcaggc agcaggtgtt ggccaacacc tgctgcctgc cgggagttat ttttagagcg 120  
gacacccaaa tatggcgacg gccggggccg cattcctggg ggccggggcg tgctcccgc 180  
cgctcgata aaaggctccg gggccggcg cggcccacga gctaccgcga ggagcgggag 240  
gcgccaagct ctaga 255

<210> 21

<211> 283  
<212> DNA  
<213> artificial sequence

<220>

<223> This is the synthetic promoter for c6-16.

<400> 21  
cggccgtcgc catatttggg tgtccgctct aaaaataact cccccaacac ctgctgcctg 60  
ccccgtcgcc atatttgggt gtcggcaggc agcagggtgtt ggccaacacc tgctgcctgc 120  
cccaacacct gctgcctgcc ccgtcgccat atttggtgtc cgccctcggc cggggccgca 180  
ttcctggggg ccgggcggtg ctcccgcccg cctcgataaa aggctccggg gccggcggtg 240  
gccacgagc taccggagg agcgggagg gccaaagtct aga 283

<210> 22  
<211> 263  
<212> DNA  
<213> artificial sequence

<220>

<223> This is the synthetic promoter for c6-39.

<400> 22  
cggccgtccg ccctcggggg agttattttt agagcgccaa cacctgctgc ctgccccgtc 60  
gcatatttg ggtgtcggca ggcagcaggt gttgggggag ttatttttag agcgccgtcg 120  
ccatatttg gtgtcccgag ggcggacggc cggggccgca ttcctggggg ccgggcggtg 180  
ctcccgcccg cctcgataaa aggctccggg gccggcggtg gccacgagc taccggagg 240  
agcgggagg gccaaagtct aga 263